Exhibit 40

No. 18-658

In the Supreme Court of the United States

JOEL DOE ET AL.,
Petitioners,
v.
BOYERTOWN AREA SCHOOL DISTRICT ET AL.,
Respondents,
and
PENNSYLVANIA YOUTH CONGRESS FOUNDATION,
Respondent-Intervenor.

ON PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE THIRD CIRCUIT

BRIEF OF *AMICI CURIAE* DRS. MIRIAM GROSSMAN, PAUL HRUZ, MICHAEL LAIDLAW, QUENTIN VAN METER, ANDRE VAN MOL IN SUPPORT OF PETITIONER

Parker Douglas
Counsel of Record
2057 Lakeway Drive
Holland, MI 49423
(801) 699-7746
parkerdouglas66@gmail.com

Counsel for *Amici Curiae*

ideological purposes untethered from scientific empirical data, as described *infra* and *supra*.

II. *Gender Dysphoria* Is a Psychological Disorder Distinguished by Confused and Distressed Thinking About the Reality of One's Sex.

A gender dysphoric youth – such as the ones in this case using locker rooms of their self-reported gender, as opposed to their sex[5] – experiences a sense of incongruity between the gender expectations linked to her or his biological sex and her or his biological sex itself. Tomer Shechner, *Gender Identity Disorder: A Literature Review from a Developmental Perspective*, 47 Isr. J. of Psychiatry & Related Sci. 132-38 (2010). As noted by one of the most judicially relied upon authorities regarding the science of mental states, gender dysphoric boys subjectively feel as if they are girls, and gender dysphoric girls subjectively feel as if they are boys – according to their sense of what that feeling of being a member of the opposite sex must be like. *See* American Psychological Association, *Diagnostic & Statistical Manual of Mental Disorders* [hereinafter, "DSM-5"] 452 (5th ed. 2013).

Yet subjective feelings, strong as they may be, cannot constitute (or transform) objective reality. Cretella, *supra*, at 51 ("[T]his 'alternate perspective' of an 'innate gender fluidity' arising from prenatally 'feminized' or 'masculinized' brains trapped in the wrong body is an ideological belief that has no basis in rigorous science."); J. Michael Bailey and Kiira Triea, *What Many Transsexual Activists Don't Want You to*

---

[5] App. 7a-8a, 11a,24a, 44a, 72a-73a.

Know and Why You Should Know It Anyway, 50 Perspectives in Biology & Med. 521-34 (2007) (finding little scientific basis for the belief that male-to-female transsexuals are women trapped in men's bodies). A gender dysphoric girl is not a boy trapped in a girl's body, and a gender dysphoric boy is not a girl trapped in a boy's body.[6] The students treated in the Third Circuit's opinion retain their sex no matter their beliefs.

---

[6] Studies of brain structure and function have not demonstrated any conclusive, biological basis for transgendered identity. *See* Giuseppina Rametti *et al.*, *White Matter Microstructure in Female to Male Transsexuals Before Cross-sex Hormonal Treatment. A Diffusion Tensor Imaging Study*, 45 J. of Psychiatric Res. 199-204 (2011) (offering no evidence to support the hypothesis that transgenderism is caused by differences in the structure of the brain); Giuseppina Rametti *et al.*, *The Microstructure of White Matter in Male to Female Transsexuals Before Cross-sex Hormonal Treatment. A DTI Study*, 45 J. of Psychiatric Res. 949-54 (2011) (same); Emiliano *Santarnecchi et al.*, *Intrinsic Cerebral Connectivity Analysis in an Untreated Female-to-Male Transsexual Subject: A First Attempt Using Resting-State fMRI*, 96 Neuroendoctrinology 188-93 (2012) (in a study of brain activity, finding that a transsexual's brain profile was more closely related to his biological sex than his desired one); Hans Berglund *et al.*, *Male-to-Female Transsexuals Show Sex-Atypical Hypothalamus Activation When Smelling Odorous Steroids*, 18 Cerebral Cortex 1900-08 (2008) (in a study of brain activity, finding no support for the hypothesis that transgenderism is caused by some innate, biological condition of the brain). Some researchers believe that transgenderism can be attributed to other biological causes, such as hormone exposure in utero. *See*, *e.g.*, Nancy Segal, *Two Monozygotic Twin Pairs Discordant for Female-to-Male Transsexualism*, 35 Archives of Sexual Behav. 347-58 (2006) (examining two sets of twins and hypothesizing, without evidence, that uneven prenatal androgen exposures led one twin in each set to be transsexual). Presently, no scientific evidence supports that conclusion.

III. There is No Scientific or Medical Support for Treating Gender Dysphoric Children in Accordance with Their *Gender Identity* Rather than Their Sex.

In standard medical and psychological practice, a youth who has a persistent, mistaken belief that is inconsistent with reality is not encouraged in his or her belief. *See* Cretella, *supra*, at 51 (listing other similar such conditions); Anne Lawrence, *Clinical and Theoretical Parallels Between Desire for Limb Amputation and Gender Identity Disorder*, 35 Archives of Sexual Behavior 263-78 (2006) (finding similarities between body integrity identity disorder and gender dysphoria). For instance, an anorexic child is not encouraged to lose weight. He or she is not treated with liposuction; instead, he or she is encouraged to align his or her belief with reality – i.e., to see himself or herself as he or she really is. Indeed, this approach is not just a good guide to sound medical practice. It is common sense.

Until quite recently these considerations predominated in how gender dysphoric children were treated. Dr. Kenneth Zucker, long acknowledged as one of the foremost authorities on gender dysphoria in children, spent years helping his patients align their subjective gender identity with their objective biological sex. He used psychosocial treatments (talk therapy, family counseling, etc.) to treat gender dysphoria and had much success.[7] *See* Cretella, *supra*,

---

[7] In a follow-up study by Dr. Zucker and colleagues of children treated by them over the course of thirty years at the Center for Mental Health and Addiction in Toronto, they found that gender dysphoria persisted in only three of the twenty-five

at 51 (describing Zucker's work); Kenneth J. Zucker *et al.*, *A Developmental, Biopsychosocial Model for the Treatment of Children with Gender Identity Disorder*, 59 J. of Homosexuality 369-97 (2012).

Dr. Zucker's eminently sound practice is anchored by recognition of the ineradicable reality that each child is immutably either male or female. It is also influenced by the universally recognized fact that gender dysphoria in children is almost always transient: the vast majority of gender dysphoric youth naturally reconcile their gender identity with their biological sex. All competent authorities agree that between 80 and 95 percent of children who say that they are transgender naturally come to accept their sex and enjoy emotional health by late adolescence. *See*, *e.g.*, Peggy Cohen-Kettenis *et al.*, *The Treatment of Adolescent Transsexuals: Changing Insights*, 5 J. of Sexual Medicine 1892, 1893 (2008). The American College of Pediatricians, for example, recently concluded that as many as 98 percent of gender-confused boys, and 88 percent of gender-confused girls, naturally resolve.[8] *See also* DSM-5, *supra*, 455.

Traditional psychosocial treatments for gender dysphoria, such as those employed by Dr. Zucker, are therefore prudent; they work with and not against the

---

girls they had treated. Kelley D. Drummond *et al.*, *A Follow-up Study of Girls with Gender Identity Disorder*, 44 Developmental Psychology 34-45 (2008).

[8] American College of Pediatricians, Gender Ideology Harms Children, Aug. 17, 2016.

Available at:
https://www.acpeds.org/the-college-speaks/positionstatements/gender-ideology-harms-children.

facts of science and the predictable rhythms of children's psycho-sexual development. They give gender dysphoric children the opportunity to reconcile their subjective gender identity with their objective biological sex without any irreversible effects or the use of harmful medical treatments.

Although some researchers report that they have identified certain factors which are associated with the persistence of gender dysphoria into adulthood,[9] there is no evidence that any clinician can identify the perhaps one-in-twenty children for whom gender dysphoria will last with any certainty. Because such a large majority of these children will naturally resolve their confusion, proper medical practice calls for a cautious, wait-and-see, approach for all gender dysphoric children. This approach can be and often is rightly supplemented by family or individual psychotherapy to identify and treat the underlying problems which present as the belief that one belongs to the opposite sex.

Policies and protocols that treat children who experience gender-atypical thoughts or behavior as if they belong to the opposite sex – exactly the policy adopted and endorsed by the Third Circuit, on the contrary, interfere with the natural progress of psycho-sexual development. Such treatments encourage a gender dysphoric youth, like the some in this case, to adhere to his or her false belief that he or

---

[9] *See*, *e.g.*, Thomas D. Steensma *et al.*, *Factors Associated with Desistence and Persistence of Childhood Gender Dysphoria: A Quantitative Follow-up Study*, 52 J. of the Am. Acad. of Child & Adolescent Psychiatry 582-90 (2013).

she is the opposite sex.[10] These treatments would help the child to maintain his or her delusion but with less distress by, among other aspects, requiring others in the child's life to go along with the charade. This is essentially what the Third Circuit is requiring here. But this misses a crucial point and scientific truth. Importantly, there are no long-term, longitudinal, control studies that support the use of gender-affirming policies and treatments for gender dysphoria. Cretella, *supra*, at 52. This is particularly concerning as the treatment course moves from social and verbal affirmation to intrusive medical interventions. *See* Paul W. Hruz, Lawrence S. Mayer & Paul R. McHugh, *Growing Pains: Problems with Puberty Suppression in Treating Gender Dysphoria*, The New Atlantis, Spring 2017, at 6 (discussing the plasticity of youth gender identity and postulating that "[i]f the increasing use of gender-affirming care does cause children to persist with their identification as the opposite sex, then many children who would otherwise not need ongoing medical treatment would be exposed to hormonal and surgical interventions.").

---

[10] Nonetheless, gender affirmance is on the rise – particularly among children. Chris Smyth, *Better Help Urged for Children With Signs of Gender Dysphoria,* The Times (London), October 25, 2013.
Available at:
http://www.thetimes.co.uk/tto/health/news/article3903783.ece
(stating that the United Kingdom saw a fifty percent increase in the number of children referred to gender dysphoria clinics from 2011 to 2012). There are now forty gender clinics across the United States that provide and promote gender-affirming treatments. Cretella, *supra*, at 52.

The Third Circuit's mandated gender-affirming therapy, which it found to be a compelling governmental interest,[11] is therefore based on a novel – and largely dangerous – experiment with no objective scientific basis to support such conclusions. Considering all the existing scientific evidence – some more of which we shall explore – it amounts to bad medicine based upon ideology rather than sound scientific evidence.

IV. Gender-Affirming Policies Generally Harm, Rather than Help, Gender Dysphoric Children.

The Third Circuit would require those under its jurisdiction to affirm (at least implicitly, by action or inaction) that that a youth with gender dysphoria be treated without question or aid. A youth's false belief would thus be perpetuated through name and pronoun changes, the "successful" impersonation of the opposite sex, and "acceptance" (forced, from some) by others that she is really a male or he is really a female. This could be viewed by some as a necessary but basically harmless expedient, a bit of play-acting to help those like some in this case to feel better about themselves during a difficult time in their lives.

There is substantial evidence, however, that this approach is harmful – even when it is viewed on its own terms as a way to help the afflicted youth get through a tough time. The American College of Pediatricians recently declared:

---

[11] App. 256a, 270a-271a.

> There is an obvious self-fulfilling nature to encouraging young [gender dysphoric] children to impersonate the opposite sex and then institute pubertal suppression. If a boy who questions whether or not he is a boy (who is meant to grow into a man) is treated as a girl, then has his natural pubertal progression to manhood suppressed, have we not set in motion an inevitable outcome? All of his same sex peers develop into young men, his opposite sex friends develop into young women, but he remains a pre-pubertal boy. He will be left psycho-socially isolated and alone.

American College of Pediatricians, *supra*; *c.f.* Hruz, Growing Pains, *supra*, at 23 (noting that when puberty-suppressing hormones are withdrawn in girls who have been treated for a condition that causes the early onset of puberty, menstruation began at "essentially the average age as the general population"—age 13—but noting that beginning to suppress puberty at age 12 for gender-dysphoric children may create physical or psychological challenges to "simply resum[ing] normal puberty down the road"). Indeed, the *American Psychological Association Handbook on Sexuality and Psychology* cautions against a rush to affirm and transition that "runs the risk of neglecting individual problems the child might be experiencing and may involve an early gender role transition that might be challenging to reverse if cross-gender feelings do not persist." W. Bockting, "Ch. 24: Transgender Identity Development," in D. Tolman & L. Diamond eds.,

American Psychological Association Handbook on Sexuality and Psychology, (vol. 1) (2014) at 744, 750.

It is well-recognized, too, that repetition has some effect on the structure and function of a person's brain. This phenomenon, known as *neuroplasticity*, means that a child who is encouraged to impersonate the opposite sex may be less likely to reverse course later in life.[12] For instance, if a boy repeatedly behaves as a girl, his brain is likely to develop in such a way that eventual alignment with his biological sex is less likely to occur. Cretella, *supra*, at 53. By rule of logic then, some number of gender dysphoric children who would naturally come to peacefully accept their sex at conception are prevented from doing so by gender-affirming policies like those mandated under the Third Circuit's jurisdiction.

Policies that compel social affirmation of gender dysphoric children do not exist in an ideological vacuum. Because they are not supported by medical or scientific evidence, one should not be surprised to discover that policies such as that endorsed by the Third Circuit are nested within a larger ideology about how to "help" children who believe that they are trapped in the wrong bodies. Although these gender-affirming policies do not themselves require medical

---

[12] One study showed that the white matter microstructure of specific brain areas in female-to-male transsexuals was more similar to that of heterosexual males than to that of heterosexual females. *See* Giuseppina Rametti *et al.*, *White Matter Microstructure in Female to Male Transsexuals Before Cross-sex Hormonal Treatment. A Diffusion Tensor Imaging Study*, 45 J. of Psychiatric Res. 199-204 (2011). The results of that study may be explained by neuroplasticity.

procedures, puberty suppression, hormone therapy, and surgical interventions are a common complement. The more that gender affirmance is promoted to children, the more that children can be expected to accept, and even to pursue, drastic medical courses.

The gender dysphoric youth surrounded by adults and peers who go along with his or her delusion is likely to perceive his natural biological development as a source of distress. Puberty suppressing hormones are often used, beginning at age eleven, to prevent the appearance of natural but (in this given case) unwanted characteristics of any maturing member of the youth's sex. Henriette A. Delemarre-van de Waal and Peggy T. Cohen-Kettenis, *Clinical Management of Gender Identity Disorder in Adolescents: A Protocol on Psychological and Pediatric Endocrinology Aspects*, 155 Eur. J. of Endocrinology S131, S132 (2006). Then, starting at age sixteen, cross-sex hormones are administered in order to induce something like the process of puberty that would normally occur for the opposite sex. *Id*. at S133.

Dr. Michelle Cretella, immediate past President of the American College of Pediatricians, has written that these medical treatments are "neither fully reversible nor harmless." Cretella, *supra*, at 53; *see also* Hruz, *supra* at 21-26 (analyzing claims of reversibility). Puberty suppression hormones prevent the development of secondary sex characteristics, arrest bone growth, prevent full organization and maturation of the brain, and inhibit fertility. Cretella, *supra*, at 53. Cross-gender hormones increase a child's risk for coronary disease and sterility. *Id*. at 50, 53. Oral estrogen, which is administered to gender

dysphoric boys, may cause thrombosis, cardiovascular disease, weight gain, hypertriglyceridemia, elevated blood pressure, decreased glucose tolerance, gallbladder disease, prolactinoma, and breast cancer. *Id*. at 53 (citing Eva Moore *et al*., *Endocrine Treatment of Transsexual People: A Review of Treatment Regimens, Outcomes, and Adverse Effects*, 88 J. of Clin. Endocrinology & Metabolism 3467-73 (2003)).

Similarly, testosterone administered to gender dysphoric girls may negatively affect their cholesterol; increase their homocysteine levels (a risk factor for heart disease); cause hepatotoxicity and polycythemia (an excess of red blood cells); increase their risk of sleep apnea; cause insulin resistance; and have unknown effects on breast, endometrial and ovarian tissues. *Id*. (citing Moore, *supra*, at 3467-73). Finally, girls may legally obtain a mastectomy at sixteen, which carries with it its own unique set of future problems, especially because it is irreversible. *Id*. (citing Lauren Schmidt, *Psychological Outcomes and Reproductive Issues Among Gender Dysphoric Individuals*, 44 Endocrinology Metabolism Clinics of N. Am. 773-85 (2015). The Hayes Directory reviewed all relevant literature on these treatments in 2014 and gave them its lowest possible rating: the research findings were "too sparse" and "too limited" to suggest conclusions. Hayes, Inc., "Hormone Therapy for the Treatment of Gender Dysphoria," *Hayes Medical Technology Directory* (2014). And there has been no FDA approval for this use of sex hormones and blocking agents.

One policy statement has endorsed a counter-approach. Jason Rafferty, *Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents* Pediatrics. 2018

Oct; 142(4).[13] This although "almost all clinics and professional organizations in the world use … the watchful waiting approach," Dr. James Cantor persuasively critiques any counter-approach in his comprehensive analysis and dissection of Dr. Rafferty's policy statement. James Cantor, "American Academy of Pediatrics Policy and Trans-kids: Fact-checking," Sexology Today, Oct. 17, 2010.[14] In fact, he goes on to say that: "Not only did [Dr. Rafferty's article] fail to provide extraordinary evidence, it failed to provide the evidence at all" for requiring the affirmative therapy approach to the exclusion of all others. *Id*.

Recently a lead author of a Finnish study admonished: "In such situations [of adolescent gender incongruence] appropriate treatment for psychiatric comorbidity may be warranted before conclusions regarding gender identity can be drawn." Kaltiala-R. Heino, *et al*., *Gender dysphoria in adolescence: current perspectives*, 9 Adolescent Health, Medicine and Therpeutics 2018: 31-41. Again, The American Psychological Association *Handbook on Sexuality and Psychology* cautions against a rush to affirm and transition that "runs the risk of neglecting individual problems the child might be experiencing and may involve an early gender role transition that might be challenging to reverse if cross-gender feelings do not

---

[13] Available at:
http://pediatrics.aappublications.org/content/pediatrics/142/4/e20182162.full.pdf

[14] Available at:
http://www.sexologytoday.org/2018/10/american-academy-of-pediatricspolicy.html

persist." Bockting, *supra* at 750. Indeed, children are not legally capable of assessing the severity of these risks or weighing the perceived benefits of gender affirmance (if any) against their many harms. A.C. Amanda C. Pustilnika & Leslie Meltzer Henry, *Adolescent Medical Decision Making and the Law of the Horse*. 15 J. Health Care L. & Pol'y 1 (2012). Neurologically, the adolescent brain is immature and lacks an adult capacity for risk assessment prior to the early to mid-20s. Cretella, *supra*, at 53. Yet, gender-affirming policies urge gender dysphoric children to forgo their fertility and jeopardize their physical health in order to avoid the distress of natural physical development.

Parents or guardians would of course have to consent to these interventions on behalf of their minor children. Even assuming that these adults have the true best interests of their children at heart, how many of them are going to be well-informed of the truth about gender dysphoria, especially where their children have already been treated (at school, and anywhere else that the Third Circuit's mandate runs) as members of the sex to which these interventions promise greater access?

Finally, gender-affirming policies aggressively promote the false notion that youths such as those treated by the endorsed policy below are trapped in the wrong body. Consequently, many gender dysphoric youths will seek (once they reach the age of maturity) the closest thing to their desired body which modern medicine can offer. Simply put: policies such as those at issue in this case will cause some young

adults who would have realigned with their sex to instead attempt to change it through surgery.

Sadly, there is no sound evidence that dramatic surgery produces lasting benefits.[15] Upon reviewing the evidence regarding sex reassignment surgery, the Hayes Directory stated that "only weak conclusions" were possible, due to "serious limitations" in the research to date. Hayes, Inc., "Sex Reassignment Surgery for the Treatment of Gender Dysphoria," Hayes Medical Technology Directory (2014); *see also* Cecilia Dhejne et al., *Long-Term Follow-up of Transsexual Persons Undergoing Sex Reassignment Surgery: Cohort Study in Sweden*, PLoS ONE, Feb. 22, 2011 (suggesting sex reassignment surgery may not rectify the comparatively poor health outcomes associated with transgender populations); Annette Kuhn *et al.*, *Quality of Life 15 Years After Sex Reassignment Surgery for Transsexualism*, 92 Fertility & Sterility 1685-89 (2009) (finding considerably lower general life satisfaction in post-surgical transsexuals as compared with females who had at least one pelvic surgery in the past).

It would appear that the most radical of treatments to the human body with exceedingly powerful hormones and permanently disfiguring and risky surgeries are done because of the child/adolescent's self-identification — effectively a

---

[15] One study (Annelou L.C. de Vries *et al.*, "Young Adult Psychological Outcomes After Puberty Suppression and Gender Reassignment," 134 Pediatrics 696-704 (2014)) reported some short-term benefits. But the authors made no effort to assess long-term effects, and their study was, in any event, not properly controlled.

self-diagnosis – a policy implicitly if not explicitly mandated by the Third Circuit's decision. There is considerable evidence that "sex-change" surgery poses very serious health risks. *See* David Batty, *Mistaken Identity*, The Guardian, July 30, 2014 (in an assessment of more than 100 follow-up studies on post-operative transsexuals, concluding that none of the studies proved that sex reassignment is beneficial for patients or thoroughly investigated "[t]he potential complications of hormones and genital surgery, which include deep vein thrombosis and incontinence").[16] One "risk" is for sure: anyone who goes through with "sex-change" surgery will never be able to engage in a reproductive sexual act. *See* Hruz, *supra* at 25 ("medical technology does not make it possible for a patient to actually grow the sex organs of the opposite sex . . . [i]nfertility is therefore one of the major side effects of the course of treatment").

CONCLUSION

The Third Circuit has mandated an experimental "one-size-fits-all" policy of gender affirmance. Underlying that directive is the assumption that treating gender dysphoric children in accordance with their self-proclaimed gender identity rather than their biological sex is beneficial to them. But there is no scientific evidence to support that rosy presupposition; on the contrary, the evidence shows that affirming any child's mistaken belief that he or she is a prisoner of the wrong body is ultimately harmful to that child.

---

[16] Available at: http://www.theguardian.com/society/2004/jul/31/health.socialcare